

## **ATTACHMENT 10**

### **STANDARD SPECIFICATIONS FOR THE PREPARATION OF LIGHTING PLANS**

#### **Scope of Services**

The consultant shall provide the following:

1. Prepare roadway lighting plans. This lighting shall include underpass lighting on the bridges (if present).
2. Field Evaluation.
3. Locate all towers and or poles outside of the clear zone if possible.
4. The minimum offset from the edge of travel lane to the face of roadway light pole shall be no less than 20'.
5. Coordinate with local power utility to identify the best external power source location(s) for the lighting and show on plans.
6. Evaluate the number of power metering points required and identified on the plans.
7. Power service runs.
8. Calculate electrical service loads and prepare wiring schematics.
9. Provide a set of lighting construction plans. This will entail producing a cover sheet, index, summary of quantities, detailed estimate, plan sheets, foundation designs, special details (if required), Special Provisions (if required), and including all applicable Georgia Standards and Details.
10. Prepare all required special provisions in Microsoft Word (.doc) format.
11. Provide soil boring reports with footing design(s) for highmast light towers (if applicable).
12. Provide footing design(s) for all roadway light poles (if applicable).
13. Revise project lighting plans and special provisions as necessary.
14. Prepare designer's cost estimate.
15. Provide design values for light intensities and uniformity ratios with design computation documentation.
16. Provide manufacturer name, model number and cut sheets for ALL proposed luminaires used in the design.
17. Provide in hardcopy or MicroStation DGN format a photometric layout including but not limited to the Illuminance Method design computations including: Road Classification, Pedestrian Conflict Area category, Roadway Surface Classification, Minimum Maintained Average Footcandle level, Uniformity Ratio avg/min and Veiling Luminance Ratio  $v_{max}/avg$  as per Table 2 page 8 of the IES RP-8-00 publication.
18. The minimum Illuminance shall be  $\geq 0.2$  foot candles (fc).

19. The maintenance factor shall be 0.7 (70%).
20. Coordinate lighting design with roadway design.
21. Coordinate lighting design with bridge design.
22. Coordinate lighting design with the Office of Utilities.
23. Coordinate lighting design with roadway project design consultants (if applicable).
24. Create final drawings.
25. Pole Data Legend Sheet including:
  - a. Circuit number
  - b. Roadway station and offset
  - c. Luminaire wattage and type
  - d. Mounting height
  - e. Mounting arrangement
26. Plan Sheets or Layout Sheet at same scale as GDOT proposed roadway plans (to be coordinated with the Department)
  - a. Including pole and service point location
  - b. Identify utility owner, address and contact person with specific connection information.
27. Construction Details
28. Provide itemized quantities and detailed estimate.
29. Review shop drawings
30. Make all required "Use on Construction" revisions.

#### **Available Information**

The following items are available from the Department:

1. Proposed Construction plans of GDOT Roadway Construction Project paper prints.
2. Electronic MicroStation DGN files and CAiCE archive (.ZIP)

#### **Deliverables**

The following items shall be delivered to the Department:

##### **Preliminary Submittal**

Construction Plans for lighting design (As part of roadway plans) including:

1. Photometric layout
2. Plan Sheets (3 sets – 1 full size paper and 2 half size paper)

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3. Luminaire manufacturers Specifications including but not limited to Manufacturer, Model Number and Cut Sheet for each proposed luminaire included in the proposed design (electronic PDF or 2 hardcopies 8½" x 11").

### **Second Submittal**

Construction Plans for lighting design (as part of Roadway Plans) including:

1. Pole Data and Legend Sheet(s)
2. Plan Sheets (3 sets - 1 full size paper and 2 half size paper)

### **Foundation Submittal(s)**

Soil Boring Reports with Footing Design(s) for Light Towers (as part of Roadway Plans) including:

1. Soil Boring Foundation Investigation Report (4 – 8 ½ x 11 hardcopies)
2. Light Tower Foundation Design(s) (4 sets – 3 full size paper and 1 half size paper)

### **Final Submittal**

Construction Plans for lighting design (As part of roadway plans) including:

1. Pole Data and Legend Sheet(s)
2. Plan Sheets, Foundation Design Sheet(s) (Highmast and or Roadway).
4. Cover Sheet, Detail Sheet(s), Summary of Quantities and Detailed Estimate
5. Electronic MicroStation (.dgn) files shall be provided for ALL plan sheets.
5. 2 hardcopies of the project specific Special Provisions (8-½" x 11") AND electronic (.doc) files.
6. 2 hardcopies of the Designer's Cost Estimate (8-½" x 11") AND electronic (.doc) or (.pdf) files.
7. All miscellaneous electronic files, including all MicroStation (.dgn), Microsoft Word (.doc), Adobe (.pdf), etc files.
8. 3 sets of final construction plans - 1 full size Mylar and 1 full size paper and 1 half size paper.

### **Revision Submittal(s)**

2 sets for each necessary Use on Construction revision (1 full size Mylar and 1 half size paper)

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**Schedule**

The current proposed management let date is June 15<sup>th</sup> 2005.